

STATE OF SOUTH CAROLINA  
BEFORE THE PUBLIC SERVICE COMMISSION

DOCKET NO. 2014-89-E

In the Matter of:	)	
	)	
	)	<b>COMMENTS OF SOUTHERN</b>
<b>Application of Duke Energy</b>	)	<b>ALLIANCE FOR CLEAN ENERGY</b>
<b>Progress, Incorporated for</b>	)	<b>AND THE SOUTH CAROLINA</b>
<b>Approval of Rider DSM/EE-6</b>	)	<b>COASTAL CONSERVATION</b>
	)	<b>LEAGUE</b>
	)	

The South Carolina Coastal Conservation League (“CCL”) and Southern Alliance for Clean Energy (“SACE”) (collectively, “Petitioners”) hereby file the following comments on Duke Energy Progress, Inc.’s (“DEP” or “the Company”) application for approval of an annual rider to recover certain costs and revenue associated with its demand-side management and energy efficiency programs, pursuant to the Stipulation and Procedure and Mechanism for Recovery of Costs and Incentives for Demand-Side Management and Energy Efficiency Programs approved in Docket No. 2008-251-E. DEP seeks to recover, through its proposed Rider DSM/EE-6, actual and estimated demand-side management (“DSM”) and energy efficiency (“EE”) costs incurred from April 1, 2013 through March 31, 2014, and forecasted costs covering July 1, 2014 through June 30, 2015. DEP requests that the proposed Rider DSM/EE-6 become effective on July 1, 2014.

Petitioners generally support DEP’s application for Rider DSM/EE-6, with several reservations. The Company continues to capture cost-effective energy savings

and provide ratepayers with low cost, reliable energy efficiency resources. However, Petitioners have several concerns and related recommendations:

- ***Declining program cost-effectiveness.*** The cost-effectiveness of DEP's programs continues to decline, and the Company should explore ways to modify the programs to improve cost-effectiveness.
- ***Declining savings forecasts.*** Despite its recent under-forecasting of efficiency impacts and an abundance of untapped achievable efficiency potential, DEP projects that its incremental energy savings will not grow in 2014. That is an undesirable outcome for ratepayers, since it means that cost-effective efficiency measures that could reduce customer bills are being left on the table. DEP can and should grow the efficiency resource in 2014 and beyond by further expanding its incremental savings achievements.
- ***Unclear evaluation, measurement and verification ("EM&V").*** While DEP's EM&V results indicate that its programs are reliably delivering anticipated energy savings, DEP should provide summary EM&V data and high-level performance findings to make its current EM&V reporting more transparent.
- ***High opt-out rate.*** The rate of commercial and industrial customers opting out of DEP's programs and rider remains high. The Company should continue to explore ways to improve and expand its program offerings to commercial and industrial customers.

- ***Slow program additions and improvements.*** Finally, the Company should continue to develop new program opportunities, as Petitioners have recommended in prior comments.

Petitioners are eager to work with DEP, the South Carolina Office of Regulatory Staff, and other stakeholders to implement these recommendations and ensure that the Company's programs continue to save energy and money for South Carolinians.

**I. The cost-benefit scores for some energy efficiency programs fell from 2012 to 2013.**

Petitioners strongly support the implementation of cost-effective energy efficiency programs and believe that programs that are not achieving energy efficiency savings as planned must be re-evaluated for opportunities to modify program design, increase participation, and/or reduce cost.

The cost-effectiveness of many of the Company's programs, as measured by the Total Resource Cost ("TRC") test, has dropped since last year.<sup>1</sup> These programs—Home Advantage, Home Energy Improvement, Lighting, Residential Appliance Recycling, Neighborhood Energy Saver, Residential New Construction and Small Business Direct Install—collectively accounted for 70% of anticipated portfolio savings in 2013.<sup>2</sup> For five of the programs—Home Advantage, Home Energy Improvement, Neighborhood Energy Saver, Residential New Construction and Small Business Direct Install—the TRC scores dropped below 1.05. A TRC score below 1.00 not only means that a program was not cost-effective in 2013, it also means that there is a rebuttable

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<sup>1</sup> It is worth noting that the application does not specify whether the TRC scores were calculated using verified savings data. Few program EM&V reports for 2013 have been filed to date, and Exhibit No. 1, Appendix C of the application shows that the majority of DEP's tracked kilowatt-hour savings from 2013 have not been verified. Thus, any TRC scores that are preliminary should be updated in future filings.

<sup>2</sup> Petitioners recognize that some programs tailored to the low-income customer sector, such as Neighborhood Energy Saver, may not be cost-effective, but are nonetheless important to include in an efficiency portfolio for policy reasons.

presumption that the savings associated with the program are not eligible for DEP's performance incentive pursuant to subparagraph (e)(3) of Exhibit 1 to the Stipulation in Docket No. 2008-251-E. These TRC results are shown in Table 1, below.

**Table 1. 2011 - 2013 DEP EE/DSM Program TRC Scores**

	2011 TRC <sup>3</sup>	2012 TRC <sup>4</sup>	2013 TRC <sup>5</sup>
Home Advantage	1.606	1.838	0.961 <sup>6</sup>
Home Energy Improvement	1.140	1.289	0.799
Lighting (Residential)	3.496	6.655	2.398
Lighting (Non-Residential)			4.654
Residential Appliance Recycling	3.811	3.381	1.358
Residential Benchmarking Program	1.433	1.058	1.239
Energy Wise	5.526	6.069	24.203
Neighborhood Energy Saver	N/A	0.560	0.308
CIG EE for Business	2.815	2.986	5.552
CIG DR	12.564	8.676	34.584
Residential New Construction	N/A	N/A	0.604
Small Business Direct Install	N/A	N/A	0.607

DEP's overall portfolio remains cost-effective due to the continued strong performance of key programs such as Lighting and CIG Energy Efficiency. This trend of declining cost-effectiveness is worrisome, however, and DEP's application does not discuss

<sup>3</sup> Docket No. 2012-93-E, Appendix D: Total Resource Cost Test Results.

<sup>4</sup> Docket No. 2013-76-E, Appendix D: Total Resource Cost Test Results

<sup>5</sup> Docket No. 2014-89-E, Appendix D: Total Resource Cost Test Results.

<sup>6</sup> The Home Advantage Program was winding down in 2013, after being cancelled in 2012, which explains the lower TRC test score.

possible reasons for certain programs' decline in cost-effectiveness—which Petitioners recognize could include factors beyond the Company's control, such as lower avoided costs. It is also not clear from the available EM&V filings whether the Company has made efforts to improve the cost-effectiveness of these programs. In future DSM/EE rider applications, DEP should explain major changes in program TRC scores and discuss whether responsive program changes are feasible and warranted.

**II. DEP is delivering substantial energy savings at a reasonable cost, yet the Company projects a decline in annual savings.**

In its application, DEP reported roughly 247 gigawatt-hours (“GWh”) in energy savings in 2013, which is an increase over the 194 GWh of savings the Company reported in 2012. These savings achievements translate to the Company saving the equivalent of 0.46% of its electricity sales in 2012, and approximately 0.57% of sales in 2013.<sup>7</sup> In fact, DEP has established an impressive track record of boosting incremental savings achievements each year since the inception of its EE/DSM portfolio. DEP projects that the trend of increasing energy savings will reverse sharply in 2014, however, when it expects to save about 0.40% of sales in 2014, or 174 GWh. These savings figures are shown in Table 2, below.

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<sup>7</sup> Notably, these savings data are “anticipated energy reductions,” not verified energy savings. To our knowledge, DEP does not collate its final verified savings data in any kind of summary exhibit or filing, which creates challenges for reviewers as discussed further in a later section.

**Table 2. 2010-14 DEP Annual Program Savings and First-Year Costs<sup>8</sup>**

	<b>Forecast Energy Savings (GWh)</b>	<b>Tracked Energy Savings (GWh)</b>	<b>Percent of Sales Equivalent</b>	<b>First-Year Cost (\$/kWh)<sup>9</sup></b>
<b>2010</b>	101	123	0.27%	\$0.24
<b>2011</b>	152	147	0.34%	\$0.20
<b>2012</b>	142	194	0.46%	\$0.15
<b>2013</b>	167	247	0.57%	\$0.15
<b>2014</b>	174	N/A	0.40%	N/A

Table 2 also compares DEP's forecasted savings, actual savings, and actual costs. DEP appears to have saved more energy in 2013 than it forecasted, and its first-year costs (*i.e.*, the dollars spent per incremental kWh saved in the same year) have declined each year since 2010, and in 2013 were lower than ever. Despite the Company's past success, DEP projects that the incremental energy savings impacts of its programs will decline in 2014. As Table 2 illustrates, DEP saved 247 GWh in 2013, well above its forecast of roughly 167 GWh, but projects to save only about 174 GWh in 2014.

Petitioners are optimistic that DEP's 2014 forecast is conservative, as it has been for the last two years, and that the Company will continue its efforts to obtain significant energy savings from cost-effective efficiency programs. There is a tremendous amount of untapped efficiency potential that DEP could deploy as a resource for meeting system energy and capacity needs and improving customer

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<sup>8</sup> The data in this table are derived from DEP's Exhibit No. 1 filed in its 2010-2014 cost recovery dockets, Docket Nos. 2010-161-E, 2011-181-E, 2012-93-E, 2013-76-E, and 2014-89-E, Provisions (h)(1)(ii)m and (h)(1)(ii)f. Savings exclude DR and DSDR programs.

<sup>9</sup> Cost represents O&M expenses plus administrative costs. DEP reports incurred costs by test period, which is April 1 – March 31. We use these cost data as proxies for the actual costs of the programs resulting in the calendar year GWh savings that are presented in Table 2.

satisfaction. DEP's 2012 efficiency potential study identified 9,086 GWh of cost-effective savings available in the Company's service territory, assuming a long-term supply cost of \$0.07 per kWh.<sup>10</sup> Given this abundant, low-cost potential, there is no apparent reason for the projected decline in DEP's energy savings. DEP should strive to capture more of the untapped cost-effective efficiency potential in its territory in the near term by growing incremental savings achievements to 1% or more annually, pursuant to the energy savings targets in the settlement agreement reached with CCL, SACE and other intervenors in relation to the Duke Energy-Progress Energy merger and approved in Docket No. 2011-158-E.

Not only are DEP's projected savings falling short of its merger-related savings targets—and far short of the savings potential identified in the Company's efficiency potential study—they are also at odds with DEP's most recent Integrated Resource Plan. The application forecasts significantly lower GWh savings through 2016 than represented in the Company's base case long-term resource plan.<sup>11</sup> We recommend that DEP work to reconcile the savings forecasts utilized in its DSM cost recovery applications and those presented as part of its long-term resource plan.

**III. Evaluation, measurement and verification results indicate that DEP's programs are reliably delivering anticipated energy savings, but DEP should further improve its EM&V reporting.**

EM&V is a critical step in ensuring that energy efficiency programs are cost-effectively saving the utility and ratepayers money. EM&V also ensures that customers

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<sup>10</sup> Forefront Economics Inc. and H. Gil Peach & Associates LLC. Progress Energy Carolinas: Electric Energy Efficiency Potential Assessment (June 2012) at 28.

<sup>11</sup> The application anticipates savings of 173 GWh, 192 GWh, and 176 GWh (when including DSDR savings) in 2014, 2015, and 2016, respectively. As shown on page 41 of SACE and CCL's comments on DEP's 2013 integrated resource plan (Docket No. 2013-8-E), DEP's base case resource plan includes over 200 GWh in each of these years and approximately 250 GWh in 2016.

are paying for actual energy efficiency achievements, which is particularly important for DEP given that the Company's performance incentive is based on a percentage of the net dollar savings from DSM/EE achievements. It appears that DEP updates its energy savings forecasts annually based on new information, which generally should help the Company to minimize over- or under-collection of DSM/EE revenues, and provides an opportunity for the Company to continually improve its forecasting. DEP's filing also includes a limited discussion concerning the application of EM&V, and Appendix C indicates the instances in which energy savings numbers are "Net of EMV."

The Company does not provide the kWh and kW savings at both the measure and program level in a clear, transparent manner, however. DEP's EM&V results are currently filed as separate, comprehensive reports for each individual program in three different Commission dockets, as shown in Table 3, below, and sources cited therein.

**Table 3. Reported and Verified Savings by Program<sup>12</sup>**

<b>Program</b>	<b>Data Year</b>	<b>Reported Savings (MWh)</b>	<b>Verified Gross Savings (MWh)</b>
Neighborhood Energy Saver <sup>13</sup>	2010	4,284	3,739
Neighborhood Energy Saver <sup>14</sup>	2011	3,975	1,964 (net)
Neighborhood Energy Saver <sup>15</sup>	2012	1,859	2,085 (net)
Lighting Program <sup>16</sup>	2010-11	214,305	303,831

<sup>12</sup> Reported savings are based on program participation data and assumed deemed measure savings values. Verified savings were calculated from on-site field assessments and updated measure savings values.

<sup>13</sup> 2010 EM&V Report for the Neighborhood Energy Saver Program, Table ES-2, Docket No. 2009-190-E (June 29, 2012).

<sup>14</sup> 2011 EM&V Report for the Neighborhood Energy Saver Program, Table ES-2, Docket No. 2009-190-E (January 31, 2013).

<sup>15</sup> 2012 EM&V Report for the Neighborhood Energy Saver Program, Table ES-2, Docket No. 2009-190-E (February 5, 2014).

<sup>16</sup> EM&V Report for the 2010- 2011 Residential ENERGY STAR® Lighting Program, Table 1, Docket No. 2010-41-E (June 29, 2012).



Appliance Recycling <sup>17</sup>	2011	7,419	6,707
Appliance Recycling <sup>18</sup>	2012	7,546	8,617
Home Advantage <sup>19</sup>	2010	2,092	1,883 (net)
Home Advantage <sup>20</sup>	2011	4,170	3,753 (net)
Home Advantage <sup>21</sup>	2012-13	3,354	3,354
Home Energy Improvement <sup>22</sup>	2009	5,017	2,494
Home Energy Improvement <sup>23</sup>	2010	8,518	8,458
Home Energy Improvement <sup>24</sup>	2011	8,256	7,989
Home Energy Improvement <sup>25</sup>	2012	8,813	6,739
Energy Efficiency for Business <sup>26</sup>	2009	17,701	17,619
Energy Efficiency for Business <sup>27</sup>	2010	46,797	44,044
Energy Efficiency for Business <sup>28</sup>	2011	59,144	57,593
Energy Efficiency for Business <sup>29</sup>	2012	58,492	48,493
Res. EE Benchmarking <sup>30</sup>	2012	N/A	10,600

<sup>17</sup> 2011 EM&V Report for the Appliance Recycling Program, Tables ES-2 and ES-4, Docket No. 2010-41-E (January 31, 2013).

<sup>18</sup> 2012 EM&V Report for the Appliance Recycling Program, Tables ES-2, ES-3 and ES-5, Docket No. 2010-41-E (January 20, 2014).

<sup>19</sup> 2010 and 2011 EM&V Report For The Home Advantage Program, Table 2-1, Docket No. 2008-251-E (Oct. 1, 2012).

<sup>20</sup> 2010 and 2011 EM&V Report For The Home Advantage Program, Table 2-1, Docket No. 2008-251-E (Oct. 1, 2012).

<sup>21</sup> 2012 and 2013 EM&V Report for the Home Advantage Program, Figure 1-2 and Table 2-1, Docket No. 2009-190-E (January 20, 2014).

<sup>22</sup> 2009 EM&V Report for the Home Energy Improvement Program, Table ES-1, Docket No. 2008-251-E (May 3, 2011).

<sup>23</sup> 2010 and 2011 EM&V Report For The Home Energy Improvement Program, Table ES-1, Docket No. 2009-190-E (June 29, 2012).

<sup>24</sup> 2010 And 2011 EM&V Report For The Home Energy Improvement Program, Table ES-2, Docket No. 2009-190-E (June 29, 2012).

<sup>25</sup> 2012 EM&V Report for the Home Energy Improvement Program, Table 1, Docket No. 2009-190-E (December 19, 2013).

<sup>26</sup> 2009 EM&V Report For the Energy Efficiency For Business Program, Table ES-2, Docket No. 2005-251-E (January, 3, 2012).

<sup>27</sup> 2010 and 2011 EM&V Report For the Energy Efficiency For Business Program, Table ES-2, Docket No. 2009-190-E (June 29, 2012).

<sup>28</sup> 2010 and 2011 EM&V Report For the Energy Efficiency For Business Program, Table ES-2, Docket No. 2009-190-E (June 29, 2012).

<sup>29</sup> 2012 EM&V Report for the Energy Efficiency for Business Program, Table ES-2, Docket No. 2009-190-E (October 10, 2013).

<sup>30</sup> Program Year 1 (2011-2012) EM&V Report For The Residential Energy Efficiency Benchmarking Program, Table 1-1, SC Docket 2011-180-E (Jan. 7, 2013).

DEP's practice of filing EM&V results in multiple dockets makes it difficult for stakeholders to verify that the Company's programs are delivering actual energy savings at a low cost to customers. In contrast, other electric utilities operating in South Carolina do file summary EM&V data for the complete program portfolio in a single docket. The EM&V report filed by South Carolina Electric & Gas Company in its annual DSM/EE rider docket includes a summary of post-EM&V data, an example of which is attached to these comments as Attachment A.<sup>31</sup> Duke Energy Carolinas ("DEC") also files post-EM&V summary data in its annual DSM/EE rider proceeding before the North Carolina Utilities Commission, an example of which is attached to these comments as Attachment B.<sup>32</sup> As in prior comments, we recommend that DEP also collate key EM&V data by program in an annual summary document and file it in the Company's annual DSM/EE rider docket. SACE and CCL will continue to work with the Company to offer suggestions on how to increase the transparency in the EM&V calculations in future filings. Efforts to improve reporting of EM&V data are worthwhile because they will provide even greater confidence in the reliability and value of energy efficiency resource investments.

**IV. DEP's opt-out rate is higher than that of DEC, and the Company should look for opportunities to increase industrial and large commercial participation.**

Qualifying industrial and large commercial customers may opt out of the Company's DSM and EE programs by providing written notification. Industrial and large commercial customers are energy-intensive sectors and therefore represent a large energy efficiency resource opportunity. Failure to capture this resource opportunity

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<sup>31</sup> Excerpted from South Carolina Electric & Gas Company EM&V report, Docket No. 2013-50-E (May 31, 2013).

<sup>32</sup> Excerpted from Duke Energy Carolinas, Duff Exhibit 8, NCUC Docket No. E-7, Sub 1031.

increases system costs for all classes of customers. DEP projected that 2,488 GWh in sales to opt-out customers will not be subject to billing under its energy efficiency rider that ends in June 2015.<sup>33</sup> As shown in Table 4, the percentage of DEP's non-residential customers who have chosen to opt out of the Company's EE/DSM programs and rider is higher than DEC's rate.

**Table 4. DEC and DEP South Carolina Opt-Outs as a Percentage of C&I Sales**

Utility	% of MWh opted out
Duke Energy Progress <sup>34</sup>	60%
Duke Energy Carolinas <sup>35</sup>	40%

Petitioners' prior non-residential program recommendations made to the Company are summarized in Table 5, in the following section. These recommendations are relevant based on DEP's list of commercial and industrial customers that have opted out of its programs and rider.<sup>36</sup> Of note are customers with more than 20 accounts opting out, which include the South Carolina Department of Corrections, the McLeod Medical Center of Pee Dee, and Coker College. In addition, Food Lion and Bi Lo, when combined, represent more than 20 accounts as well.

**V. There are numerous energy efficiency programs that DEP should explore to boost savings.**

Table 5 summarizes Petitioners' prior recommendations for both residential and non-residential programs in Docket No. 2013-8-E, regarding DEP's 2013 resource plan and Docket No. 2013-76-E, DEP's most recent annual DSM/EE rider proceeding. The Company has not acknowledged these suggestions in a formal way; however, SACE and CCL look forward to engaging with the newly created DEP Collaborative to discuss

<sup>33</sup> See Application, Exhibit 1, Provision (h)(1)(ii)q.

<sup>34</sup> See Application, Workpaper R-3. General Service and Lighting opt-out.

<sup>35</sup> See Application of Duke Energy Carolinas, LLC for Approval of Rider 5, Exhibit 3, Docket No. 2013-299-E (August 1, 2013).

<sup>36</sup> Non-participating customers are listed in DEP Exhibit No. 1, Appendix A.

new energy efficiency programs and improvements to existing programs. Table 5 also includes recent recommendations for DEC by Petitioners and their co-intervenors in Docket No. 2013-298-E, as these recommendations are equally applicable to DEP.

**Table 5. Residential and Non-Residential Energy Efficiency Programs That DEP Should Consider**

<b>Program Type</b>	<b>Example Program/Provider</b>	<b>Docket in which Recommended by Petitioners</b>	<b>Description</b>
Hospital	Public Service Electric and Gas Company ("PSE&G")	2014-89-E (DEP)	The Hospital Efficiency Program offered by PSE&G, a New Jersey investor-owned utility, addresses financial barriers to the implementation of efficiency measures by providing funding for the total cost of energy efficiency during construction, and allowing the hospital to repay its portion of the total cost over time on its utility bill.
Multi-Family	NYSERDA Multifamily Performance Program	2013-8-E (DEP)	Provides escalating incentives for greater savings levels and challenges multifamily owners to reduce total source energy consumption by 15%. The impact evaluation for this program will be available in Q1 2014.
Midstream Incentives for HVAC	Energy Solutions for PG&G, SCE, NV Energy, SDG&E and SMUD	2013-8-E (DEP)	HVAC distributors receive tiered incentives to stock and upsell high efficiency HVAC equipment.
Commercial Commissioning or Re-commissioning	Xcel Energy in Colorado and Minnesota	2013-8-E (DEP)	Xcel pays for up to 75% of re-commissioning study cost, and an implementation rebate of up to \$0.08 per lifetime kWh saved.
Commercial New Construction	MidAmerican in Iowa	2013-8-E (DEP)	Incentives offered by Carolinas utilities are applicable to new construction in the non-residential market; however a program targeted at new construction for non-residential doesn't exist. MidAmerican offers incentives to offset the cost of higher initial costs associated with the design and installation of energy efficient building options.
Truveon	Piedmont EMC	2013-8-E (DEP)	Piedmont is piloting Truveon technology in a residential efficiency program. Truveon software provides info for residential HVAC right-sizing and continuous commissioning. Truveon projects savings of 40% on residential HVAC.

Grocery Retro commissioning	PSE&G	2013-76-E (DEP)	PSE&G offers a retrofit commissioning program that focuses on energy savings through improved operations and maintenance (O&M) practices and no/low-cost retrofit measures that are specific to supermarkets. PSE&G chose to focus on supermarkets for a variety of reasons, including the estimate that every \$1 in energy savings generated in a supermarket is equivalent to increasing sales by \$59. <sup>37</sup> The program is implemented in three phases, and participants are required to conduct measurement and verification for a 12-month period following program participation to ensure the savings persist.
Campus program	NSTAR	2013-76-E (DEP)	NSTAR Electric and Gas (“NSTAR”) has partnered with MIT in the Efficiency Forward program. MIT committed to annual reduction targets of about 10GWh a year, and NSTAR committed to paying a fixed incentive for each kWh saved. <sup>38</sup> In addition to its energy saving targets, MIT committed to reinvesting a portion of the savings into more efficiency projects. Further, by providing a flat rate incentive, NSTAR simplified the process for MIT, enabling the school to focus on project implementation rather than determining what the incentive rate would be for a variety of projects
Municipal program	PSE&G	2013-76-E (DEP)	PSE&G offers a Direct Install Program for government and non-profit facilities. <sup>39</sup> The program has been designed to successfully overcome financing and installation barriers widely common in this sector by offering direct installation of efficiency measures and on-bill financing. The program starts with PSE&G conducting an audit and identifying energy efficiency opportunities. <sup>40</sup> After the cost proposal is approved, PSE&G installs the efficiency measures and pays 100% of the upfront cost. <sup>41</sup> The participant then repays 20% of the cost over two years, interest free, through on-bill financing.

<sup>37</sup> Bryant, Elaine, Paul J. Romano. Innovation in Retro-Commissioning Program Design: The Value of Customer Partnerships. Presentation at Association of Energy Professionals Annual Conference, February, 2012.

<sup>38</sup> <http://web.mit.edu/facilities/environmental/efficiencyforward/>

<sup>39</sup> [http://www.pseg.com/business/small\\_large\\_business/save\\_energy/gov\\_efficiency.jsp](http://www.pseg.com/business/small_large_business/save_energy/gov_efficiency.jsp)

<sup>40</sup> Id.

<sup>41</sup> Id.

On-bill financing	South Carolina coop's Help My House; Kentucky coop's How Smart program	2013-76-E (letter to DEP)	In South Carolina, Central Electric Power Cooperative and the Electric Cooperatives of South Carolina spearheaded an on-bill financing pilot program in 2010. Based on the program evaluation that was completed in June 2013, the typical participant saved over \$1,150 a year in energy costs, receiving a net savings of \$280 a year after paying \$870 for their efficiency equipment.
Plug Load	Ecova Midstream Retail Consumer Electronics	2013-76-E (letter to DEP)	Provides incentives to retailers to increase promotion and support of high efficiency devices, coupled with promotional and education materials for consumers.
Weatherization Assistance Add-On Program	Efficiency Vermont	2013-298-E (DEC)	Efficiency Vermont piggybacks electrical efficiency measures onto the Weatherization Assistance Program thermal retrofit projects. Measures include Energy Star refrigerators, clothes washers, lighting, ventilation fans and power strips.
Major Appliance Rehabilitation Services (MARS)	Efficiency Vermont	2013-298-E (DEC)	Efficiency Vermont offers the Weatherization Assistance Program to customers who are slightly above the income qualifications for the state-administered program. MARS serves households earning up to 80% of the median income (as opposed to the 60% required by WAP).
Massachusetts public housing program	Mass Save	2013-298-E (DEC)	Targets buildings owned by public housing authorities or non-profits that serve low-income populations. The program targets high-energy users with a benchmarking tool that compares energy consumption in a portfolio of buildings. This allows the building owners to quickly select projects based on the greatest energy savings available.

Upstream manufactured home program	TVA Manufactured Home Program	2013-298-E (DEC)	TVA provides \$1,450 to manufactured home producers in the form of a cost effective upstream incentive. <sup>42</sup> The incentive level was set to cover the majority of the incremental cost between a HUD and Energy Star manufactured home and has been effective in transforming the manufactured home market in TVA's territory. Each home that is installed within TVA's territory creates almost 12,000 kWh of savings for TVA and the customer.
Duke Energy Ohio low-income program pilot	Duke Energy Ohio	2013-298-E (DEC)	The pilot program will leverage funding from People Working Cooperatively, Inc. ("PWC"), a non-profit organization that serves low-income, elderly, and disabled homeowners. The pilot allows Duke Energy Ohio to purchase the energy savings, at \$0.255 per first-year kWh, that are realized through leveraged funds acquired by PWC. Duke Energy Ohio projects that this program will be cost-effective and, as a safeguard, the Ohio PUC placed a \$2M cap on the pilot over its three-year life.
Industrial process efficiency	Xcel Energy	2013-298-E (DEC)	Xcel Energy's Process Efficiency program could also be useful to DEP industrial customers. <sup>43</sup> The program is conducted in three phases. During the first phase, the detailed energy management plans are created and customer support for the plan is developed. In the second phase, data mining occurs to turn energy monitoring data into useful, easy to understand visual representations of energy performance. Implementation occurs during phase three, and long-term incentives are provided to generate results and encourage ongoing energy management. EM&V of the program in 2012 indicated that the conversion rate from efficiency opportunities to implementation is ~90%, which is much higher than for programs that offer technical studies as the incentive.

<sup>42</sup> TVA Website, [http://www.tva.com/news/releases/janmar12/ee\\_manufactured\\_housing.html](http://www.tva.com/news/releases/janmar12/ee_manufactured_housing.html).

<sup>43</sup> Kennedy, Dominic, Lori Nielsen, Chandan Rao, Nikhila Rao and Stuart Moulder. Leveraging Senior Executive Engagement, Long Term Performance Incentives and Data Mining to Achieve Significant Savings and Sustainable Energy Management Practices for Large Customers. 2013 ACEEE Summer Study on Energy Efficiency in Industry.



Industrial energy management	BPA	2013-298-E (DEC)	The Bonneville Power Association (“BPA”) offers an Energy Management Pilot to its industrial customers. The goal of the pilot is to achieve energy efficiency impacts in the industrial sector through improved operations and maintenance (“O&M”) practices and capital measures.
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## **VI. Conclusion**

In conclusion, DEP is capturing significant energy efficiency savings and providing ratepayers with low cost, reliable, energy resources. Accordingly, Petitioners support DEP's requested Rider DSM/EE-6. The Company's DSM/EE efforts could be improved in several respects, however. In light of declining energy savings forecasts, DEP should redouble its efforts to achieve energy savings from its DSM/EE programs. DEP's EM&V reporting could also be improved, by supplementing the Company's current EM&V reporting with summary EM&V data and high-level performance findings. The Company should continue to explore ways to improve and expand its program offerings to commercial and industrial customers, to encourage them to participate in its DSM/EE programs. Finally, DEP should continue to develop new program opportunities more generally. Petitioners look forward to continuing to work with DEP and ORS to ensure that the Company's programs succeed in saving energy and money for South Carolinians.

Respectfully submitted this 15th day of May, 2014.

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Table 1. Portfolio Net Savings, Program Costs and Participation

Program Name	NET Savings				Program Costs		Participation		
	MWh Actual	% of Forecast	MW Actual	% of Forecast	Actual	% of Forecast	Actual	% of Forecast	Def
ENERGY STAR Lighting	65,919	245%	6.00	172%	\$ 4,221,791	116%	2,654,041	321%	Bulbs
Heating & Cooling and Water Heating	10,027	113%	3.05	141%	\$ 2,572,898	70%	6,006	84%	Measures
Home Energy Report	3,723	45%	1.37	45%	\$ 349,767	81%	28,012	111%	Customers
Home Energy Check-up	1,918	257%	0.43	287%	\$ 751,389	125%	2,677	129%	Customers
ENERGY STAR New Homes	910	200%	0.3	188%	\$ 555,763	162%	353	70%	Homes
Heating & Cooling Efficiency Improvement	501	7%	0.16	5%	\$ 904,975	36%	1,026	8%	Customers
Home Performance with ENERGY STAR	502	19%	0.18	31%	\$ 1,174,442	47%	258	25%	Customers
Energy Information Display	303	16%	0.048	16%	\$ 501,482	61%	1490	31%	Customers
C&I Prescriptive & Custom	26,821	42%	3.34	46%	\$ 5,017,526	91%	572	103%	Customers
<b>Total</b>	<b>110,623</b>	<b>91%</b>	<b>14.88</b>	<b>72%</b>	<b>\$ 16,050,032</b>	<b>80%</b>	<b>2,694,435</b>	<b>306%</b>	
*Actuals are compared to PY2 forecasts in the Evaluation Plan.									
*Program costs presented in this report do not account for amortization or interest (carrying cost)									

Duke Energy Carolinas  
Changes to DSM/EE Cost Recovery Vintage 3 True Up January 1, 2012 - December 31, 2012  
Changes from Prior Filing Due to Application of M&V and Participation  
System kWh and kW Impacts Net Free Riders at the Plant

Residential Programs

Program Name	Filed in Docket E-7, Sub 979		Filed in Docket E-7, Sub 1031		Overall Variance		E-7 Sub 979	E-7 Sub 1031	Delta	Variance due to Change in Impacts and Measure Mix		Variance due to Change in Participation		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation		Participation	kWh	kW	kWh	kW	kWh	kW
Appliance Recycling	-	-	1,971,543	366	1,971,543	366	-	1,990	1,990	-	-	1,971,543	366	1,971,543	366
Residential Energy Assessments	7,711,468	1,158	9,499,733	1,376	1,788,265	218	15,730	27,734	12,004	(4,096,570)	(666)	5,884,835	884	1,788,265	218
Smart Saver® for Residential Customers	71,843,937	8,057	224,983,046	24,409	153,139,109	16,352	1,458,273	5,854,957	4,396,684	(63,469,913)	(7,940)	216,609,022	24,292	153,139,109	16,352
Low Income Energy Efficiency and Weatherization Assistance	447,655	58	-	-	(447,655)	(58)	400	-	(400)	-	-	(447,655)	(58)	(447,655)	(58)
Energy Efficiency Education Program for Schools	6,353,960	1,179	8,963,453	1,663	2,609,493	484	26,000	40,485	14,485	(930,396)	(173)	3,539,889	657	2,609,493	484
Residential Retrofit Pilot	2,332,800	938	283,678	47	(2,049,122)	(891)	1,080	65	(1,015)	143,278	(9)	(2,192,400)	(882)	(2,049,122)	(891)
Home Energy Comparison Report	-	-	49,339,464	10,461	49,339,464	10,461	-	702,215	702,215	-	-	49,339,464	10,461	49,339,464	10,461
PowerManager	-	333,879	-	268,706	-	(65,173)	221,373	186,090	(35,283)	-	(11,958)	-	(53,214)	-	(65,173)
Residential Programs Total	88,689,820	345,269	295,040,918	307,028	206,351,098	(38,241)	1,722,856	6,813,536	5,090,680	(68,353,601)	(20,746)	274,704,699	(17,495)	206,351,098	(38,241)

Non-Residential Programs

Program Name	Filed in Docket E-7, Sub 979		Filed in Docket E-7, Sub 1031		Overall Variance		E-7 Sub 979	E-7 Sub 1031	Delta	Variance due to Change in Impacts and Measure Mix		Variance due to Change in Participation		Sum of Variances	
	kWh	kW	kWh	kW	kWh	kW	System Participation		Participation	kWh	kW	kWh	kW	kWh	kW
Smart Saver® for Non-Residential Customers Lighting	43,011,995	8,791	68,918,024	12,076	25,906,029	3,285	225,004	261,816	36,812	18,869,009	1,847	7,037,020	1,438	25,906,029	3,285
Smart Saver® for Non-Residential Customers Motors	2,698,447	519	5,967,650	1,132	3,269,203	613	1,656	5,141	3,485	(2,409,594)	(479)	5,678,797	1,092	3,269,203	613
Smart Saver® for Non-Residential Customers - Other Prescriptive	15,945	3	-	-	(15,945)	(3)	109	-	(109)	-	-	(15,945)	(3)	(15,945)	(3)
Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	757,990	136	1,950,854	366	1,192,864	230	258	1,589	1,331	(2,717,542)	(471)	3,910,406	702	1,192,864	230
Smart Saver® for Non-Residential Customers - HVAC	4,745,056	1,398	4,120,481	1,716	(624,575)	318	39,341	69,604	30,263	(4,274,702)	(758)	3,650,127	1,075	(624,575)	318
Smart Saver® for Non-Residential Customers - Custom Rebate	17,565,577	2,799	113,380,706	15,371	95,815,129	12,572	1,518	67,339	65,821	(665,834,306)	(108,794)	761,649,436	121,366	95,815,129	12,572
Smart Energy Now	-	-	4,127,229	775	4,127,229	775	-	34	34	-	-	4,127,229	775	4,127,229	775
PowerShare	-	320,688	-	376,736	-	56,048	297	171	(126)	-	192,206	-	(136,157)	-	56,048
Non-Residential Programs Total	68,795,010	334,334	198,464,943	408,172	129,669,933	73,838	268,183	405,694	137,511	(656,367,135)	83,550	786,037,069	(9,712)	129,669,933	73,838
Total Residential and Non-Residential Programs	157,484,830	679,603	493,505,862	715,200	336,021,032	35,597	1,991,039	7,219,230	5,228,191	(724,720,736)	62,805	1,060,741,767	(27,208)	336,021,032	35,597

NOTE - The actual per unit impacts are reflective of the following EM&V reports:

Program Name As Filed	Docket	Report Reference	Effective Date
Residential Energy Assessments	E-7, Sub 1001	Exhibit A - Carolinas - PER and OHEC - Final Impact Evaluation Report - Nov 15 2011.pdf	6/1/2009
		Exhibit C - Carolinas - HEHC - Final Process and Impact Evaluation Report - June 13 2011.pdf	6/1/2009
Smart Saver® for Residential Customers	E-7, Sub 1001	Exhibit F - Carolinas - Smart \$aver CFL - Final Process and Impact Evaluation Report - Revised April 26 2011.pdf	6/1/2009
		Exhibit O - Carolinas - Residential Smart \$aver HVAC - Final Impact Evaluation Report - Jan 27 2012.pdf	6/1/2009
	E-7, Sub 1031	Rider 5 - Exhibit F - Residential Smart \$aver CFL Process and Impacts.pdf	3/1/2012
Low Income Energy Efficiency and Weatherization Assistance	E-7, Sub 1001	Exhibit N - Low Income Program Freeridership - Memo - July 11 2011.pdf	6/1/2009
Energy Efficiency Education Program for Schools	E-7, Sub 1001	Exhibit D Carolinas - K12 - Final Impact Process Evaluation Report - Nov 17 2011.pdf	6/1/2009
Smart Saver® for Non-Residential Customers Lighting	E-7, Sub 1001	Exhibit K - Carolinas - Non Res Smart \$aver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	6/1/2009
		Exhibit P - Carolinas - Evaluated Savings for 3 Lamp High Bay Fixture - Memo - Dec 29 2011.pdf	6/1/2009
Smart Saver® for Non-Residential Customers Motors	E-7, Sub 1001	Exhibit K - Carolinas - Non Res Smart \$aver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	6/1/2009
		Exhibit Q - Carolinas - Non-Residential Smart \$aver - VFD Update Memo - Feb 2 2012.pdf	1/1/2011
Smart Saver® for Non-Residential Customers - Other Prescriptive	E-7, Sub 1001	Exhibit K - Carolinas - Non Res Smart \$aver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	6/1/2009
Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	E-7, Sub 1001	Exhibit K - Carolinas - Non Res Smart \$aver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	6/1/2009
Smart Saver® for Non-Residential Customers - HVAC	E-7, Sub 1001	Exhibit K - Carolinas - Non Res Smart \$aver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	6/1/2009

CERTIFICATE OF SERVICE

I hereby certify that the parties listed below have been served via first class U.S. Mail and electronic mail with a copy of the Comments of Southern Alliance for Clean Energy and the South Carolina Coastal Conservation League.

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This 15th day of May, 2014.

s/ Robin G. Dunn